

Amendment

Reply to Final Office Action dated August 29, 2007

AMENDMENTS TO THE CLAIMS

This listing will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A system for improving the fixation of proximal fractures of the humerus, including at least one humeral nail to be inserted in a humeral shaft and comprising at least one transverse hole for the passage of a corresponding locking screw, said locking screw having a screw head and a screw body;

the system further including at least one intermediate plate element inserted between said screw head and the bone cortex surface so that the screw head abuts said plate;

wherein said intermediate plate element comprises an enlarged flange portion and two elongated arm portions extending from the flange portion, the arm portions defining a longitudinal direction,

wherein said intermediate plate element is slightly curved in the longitudinal direction to adhere substantially to the bone cortex surface, and

wherein said elongated arm portions can be positioned astride the screw body before the final fastening of the screw head, and

wherein at least one of said transverse holes has an internal partially threaded portion and the corresponding screw has an outside thread diameter smaller than the diameter of said at least one transverse hole that receives such a screw.

2. (Cancelled)

3. (Previously presented) System according to claim 1, wherein said arm portions present rounded ends.

4. (Previously presented) System according to claim 1, wherein said enlarged flange portion of said intermediate plate element defines a seat for embracing at least a fragment fixation pin.

5. (Previously presented) System according to claim 4, wherein said seat includes at least one hole formed in said enlarged flange portion of the intermediate plate element.

6. (Previously presented) System according to claim 4, wherein said seat includes at least one hole formed in at least one of said elongated arm portions.

7. (Previously presented) System according to claim 1, wherein said intermediate plate element has a substantially rounded profile.

8. (Cancelled)

9. (Previously presented) System according to claim 1, wherein a second intermediate plate element is inserted between the screw head of a second locking screw and the bone cortex surface.

10. (Previously presented) System according to claim 9, wherein said second intermediate plate element is larger than a first intermediate plate element.

11. (Previously presented) System according to claim 9, wherein said second intermediate plate element comprises two elongated arm portions that can be positioned astride the screw body.

12. (Previously presented) System according to claim 9, wherein said first intermediate plate element comprises two elongated arm portions that can be positioned astride the screw body before the final fastening of the screw head and said second intermediate plate element comprises two elongated arm portions that are longer than the arm portions of said first intermediate plate element.

13. (Cancelled)

14. (Currently amended) System according to claim [[13]] 1, wherein said at least one of said transverse holes comprises a couple of opposite holes on opposite wall of a cannulated nail and the hole closer to the screw head includes said partially threaded portion.

15. (Currently amended) A fastening device for improving the fixation of proximal fractures of the humerus, of the type structured to work with at least one humeral nail to be inserted in a humeral shaft and comprising at least proximal transverse holes for the passage of corresponding locking screws, at least one of the transverse holes having an internal partially threaded portion, at least one screw of said locking screws having a screw head and a screw body, and having an outside thread diameter smaller than the diameter of the at least one transverse hole that receives such a screw;

said device comprising an intermediate plate element to be inserted between said screw head and the bone cortex surface for enlarging the abutting area of the screw head;

wherein said intermediate plate element comprises an enlarged flange portion and two elongated arm portions extending from the flange portion, the arm portions defining a longitudinal direction,

wherein said intermediate plate element is slightly curved in the longitudinal direction to adhere substantially to the bone cortex surface, and

wherein said elongated arm portions can be positioned astride the screw body before the final fastening of the screw head.

16. (Cancelled)

17. (Previously presented) Fastening device according to claim 15, wherein said arm portions present rounded ends.

18. (Previously presented) Fastening device according to claim 15, wherein said enlarged flange portion of said intermediate plate element defines a seat embracing at least one fragment fixation pin.

19. (Previously presented) Fastening device according to claim 18, wherein said seat includes at least one hole formed in said enlarged flange portion of the intermediate plate element.

20. (Previously presented) Fastening device according to claim 18, wherein said seat includes at least one hole formed in at least one of said elongated arm portions.

21. (Previously presented) Fastening device according to claim 15, wherein said intermediate plate element has a rounded profile.

22. (Cancelled)

23. (Previously presented) A method for reducing proximal fractures of the humerus by using a humeral nail to be inserted in a humeral shaft and comprising at least proximal transverse holes for the passage of corresponding locking screws, at least one screw of the locking screws having a screw head and a screw body; the method including the steps of:

producing an incision in the muscle surrounding the bone during a surgery phase to access a humeral fracture; and

inserting at least one intermediate plate element between the screw head and the bone cortex surface before the final fastening of the screw so that the head is abutting against the plate,

wherein the intermediate plate element comprises an enlarged flange portion and two elongated arm portions extending from the flange portion, the arm portions defining a longitudinal direction,

wherein the intermediate plate element is slightly curved in the longitudinal direction to adhere substantially to the bone cortex surface, and

wherein the elongated arm portions are positioned astride the screw body before the final fastening of the screw head.